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very large, about 30° . Its mean distance from *Jupiter* is about seven million miles.

The orbit for the seventh satellite is not yet finished. That computed by the writer gave a period of two hundred days, with a mean distance of six million miles from the primary, and an eccentricity of 0.36. Like the sixth satellite, the orbit of the seventh is inclined at an angle of about 30° to the plane of *Jupiter's* equator. The direction of motion, however, appears to be *opposite* to that of the sixth (and the five inner satellites). Should this prove to be the case, these two bodies will form an extremely interesting pair; for in that case their orbit-planes almost coincide in space.

The disturbing action of the Sun on these two satellites will be very great.

C. D. PERRINE.

May 28, 1905.

TWO NEW VARIABLE STARS.

The stars numbered 564 and 565 in the Leipzig II zone of the Astronomische Gesellschaft were used as comparison-stars in photographic observations of the VI and VII satellites of *Jupiter*, and are found to be variable. Their positions for 1875.0 are as follows:—

No. 564	α	$1^h 24^m 46^s.79$	$\delta + 7^\circ 31' 23''.3$	Mag. 8.9
565	ι	$24 55.30$	$+ 7 38 25.5$	9.0

These stars appear on the plates of January 25th, 26th, 27th, and 28th. Rough estimates of their magnitudes are given below:—

	P. S. T.	Plate No.	Star No. 564,	Star No. 565
January	25 $8^h 50^m$	1408	9.0	10.5
	26 8 6	1410	9.0	9.5
	26 9 9	1411	9.0	9.5
	27 7 26	1414	9.7	9.0
	27 8 44	1415	9.2	9.4
	27 9 42	1416	9.2	9.4
	28 6 58	1418	9.0	9.3
	28 7 37	1419	9.0	9.5
	28 8 16	1420	9.0	9.5

So far as I am aware, these stars were not previously known to be variable. It is not yet possible to determine magnitudes of stars on these photographs with any great degree of refinement.

C. D. PERRINE.

May 27, 1905.